

What is claimed is:

1. A system for identifying media type in a media processing device, the system comprising:

a thermal energy source; and

5 a thermal energy sensor;

wherein the thermal energy source and thermal energy sensor are arranged along a media feed path so as to accommodate transfer of thermal energy to the media by the thermal energy source, diffusion of such thermal energy, and subsequent sensing of such diffused thermal energy to determine a  
10 heat capacity of the media, such heat capacity being indicative of media type.

2. The system of claim 1, wherein the thermal energy source and the thermal energy sensor are oriented in a line parallel with a media feed path, the thermal energy sensor being downstream from the thermal energy  
15 source.

3. The processing device of claim 1, wherein the thermal energy source is a heat source.

20 4. The system of claim 1, further comprising a shield disposed about the thermal energy source so as to direct thermal energy generated by the thermal energy source toward the feed path.

25 5. The system of claim 1, further comprising a shield disposed about the thermal energy sensor to direct heat radiated from the feed path toward the thermal energy sensor.

6. The system of claim 1, wherein the thermal energy source includes an infrared heat source.

30 7. The system of claim 1, wherein the thermal energy sensor includes a thermocouple device.

8. The system of claim 1, wherein the thermal energy sensor includes a semiconductor device.

9. The system of claim 1, wherein the thermal energy sensor  
5 includes a polyvinylidene fluoride sensor.

10. The system of claim 1, wherein the thermal energy sensor includes a passive infrared sensor.

10 11. The system of claim 9, further comprising a keyed shield configured to periodically thermally shield media passing along the media feed path.

12. A media processing device comprising:  
15 a media feed mechanism configured to pass media downstream along a media feed path;  
a heat source disposed along the feed path to heat media passing downstream along the media feed path;  
a temperature sensor disposed along the feed path downstream  
20 from the heat source, the temperature sensor being configured to sense temperature of media passing downstream from the heat source;  
a processor coupled with the temperature sensor to selectively identify media type based on sensed temperature of the media.

25 13. The media processing device of claim 12, wherein the heat source is a pulsed heat source configured to produce interleaved heated patches and unheated reference patches on the media, whereby sensing of such heated patches and unheated reference patches by the temperature sensor produces a waveform representative of heat capacity of the media.

14. The media processing device of claim 13, wherein the processor is configured to receive the waveform representative of heat capacity of the media, such heat capacity being indicative of media type.

5           15. The media processing device of claim 12, wherein the media processing device is a printer.

16. The media processing device of claim 12, wherein the heat source is an infrared heat source.

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17. The media processing device of claim 12, wherein the temperature sensor includes a thermocouple device.

18. The media processing device of claim 12, wherein the  
15 temperature sensor includes a semiconductor device.

19. The media processing device of claim 12, wherein the temperature sensor includes a polyvinylidene fluoride film device.

20           20. The media processing device of claim 12, wherein the temperature sensor includes a passive infrared sensor.

21. The media processing device of claim 12, further comprising:  
a first shield disposed around the heat source; and  
25 a second shield disposed around the temperature sensor;  
wherein the first shield directs thermal energy from the heat source toward the feed path and the second shield directs thermal energy from the feed path toward the temperature sensor.

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22. The print media processing device of claim 12 which further comprises a reference surface having a reference temperature, the processor being configured to compare the sensed temperature to the reference temperature to determine heat capacity of the media, such heat capacity being  
5 indicative of media type.

23. The media processing device of claim 12, further comprising a keyed shield interposed the temperature sensor and the feed path to selectively periodically shield the temperature sensor from thermal energy radiated by media  
10 passing downstream from the heat source, whereby such periodically shielded sensing produces a waveform representative of heat capacity of the media.

24. The media processing device of claim 23, wherein the processor is configured to receive the waveform representative of heat capacity  
15 of the media, such heat capacity being indicative of media type.

25. The media processing device of claim 12, wherein the processor is configured to modify toner fuser speed based on media type.

20 26. A method of determining media type, the method comprising:  
applying thermal energy to media;  
feeding the media downstream along a media feed path;  
sensing thermal energy radiated from the media; and  
calculating a heat capacity of the media based on the thermal  
25 energy radiated from the media.

27. The method of claim 26 which further comprises determining a reference thermal energy by measuring thermal energy radiated from a reference surface, heat capacity being based on a comparison of thermal energy radiated from the media with thermal energy radiated from the reference surface.

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28. The method of claim 26, wherein applying thermal energy includes pulsing thermal energy from a heat source towards the media to produce interleaved heated and unheated patches of media, such heated and unheated patches being sensed by a temperature sensor to produce a waveform representative of heat capacity of the media.

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29. The method of claim 28, wherein calculating a heat capacity of the media includes performing a root mean square operation on the waveform.

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30. A media processing device comprising:

media feed means configured to pass media downstream along a media feed path;

heating means disposed along the feed path for applying thermal energy to media passing downstream along the media feed path;

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temperature-sensing means disposed along the feed path downstream from the heat source for selectively sensing temperature of media passing downstream from the heating means;

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a processor means coupled with the temperature-sensing means for receiving an output representative of the sensed temperature, determining heat capacity of the media based on such output, and identifying media type based on such heat capacity.

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31. The media processing device of claim 30, which further comprises reference means for determining ambient temperature, the processor means being configured to determine heat capacity based on a comparison between such ambient temperature and such sensed temperature.

32. The media processing device of claim 30, wherein the processor means is configured to determine heat capacity based a root mean square calculation performed on an output representative of the sensed temperature.